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ABSTRACT

Selected student attitudinal variables which are felt to represent important educational outcomes especially relevant in integrated school environments are examined in this paper. The purpose of the investigators was to determine the antecedents of these variables in integrated intermediate and middle schools. In addition, an attempt is made to relate the current findings to those of other researchers by pointing out areas of both agreement and conflict. Student attitudinal variables considered include academic self concept, racial prejudice, an Anglo friendship measure, aspirations, and responsibility for academic successes and failures. The selected antecedent variables include such background and achievement characteristics as sex, achievement level, family socioeconomic status, busing status, class proportion Anglo, class achievement level, present school proportion Anglo, and elementary school proportion Anglo. In addition, to focus on differences among Anglos, Blacks, and Mexican Americans, separate analyses are presented for each ethnic group. A total of 73 Dallas, Texas, schools were involved in the survey, 20 of them naturally integrated and 52 impacted by a 1976 Federal court desegregation order. Separate samples were conducted at the fourth, fifth and eighth grade levels. (Author/GC)

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Relationships between Student Attitudes and Selected Background and Achievement Characteristics[1,2]

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Dallas Independent School District

The 1954 Brown vs. the Board of Education court ruling has prompted research studies on almost every conceivable outcome of desegregation. Particular interest in desegregation's effects on student attitudes has stimulated numerous investigations. Some of these investigations have focused on such outcomes as students' aspirations and academic self-concept; others have considered racial prejudice; while still others have concerned themselves with friendship patterns and sense of environmental control.

While some very tentative conclusions have been reached, the findings of these studies were, in many cases, as varied as the number of studies conducted. Several examples will serve to illustrate this.

St. John (1973), Armor (1967), and Bachman (1970) concluded that Black student aspiration level tends to be negatively correlated with the proportion of Anglo students in a school. Similar research examining general self-concept and school racial composition indicated no significant relationship between these variables (Rosenberg and Simmons, 1971). Mixed findings have been reported on the relationship between racial prejudice and school integration. Almost as many studies found prejudice levels decreasing after school integration as increasing (St. John, 1973).

The lack of more conclusive findings can be better understood when the methodological differences among desegregation studies are noted. Variations in sample composition, instrumentation, research design, and statistical

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techniques all contributed to the lack of consistent answers to often-asked desegregation questions.

This investigation focused upon selected student attitudinal variables which were felt to represent important educational outcomes that were especially relevant in integrated school environments. Specifically, our purpose was to determine the antecedents of these variables in integrated intermediate and middle schools. In addition, in spite of the ambiguities that currently exist in the literature, an attempt was made to integrate our findings with those of other investigations by pointing out areas of both agreement and conflict.

The following student attitudinal variables were considered: academic self-concept, racial prejudice, an Anglo friendship measure, aspirations, and responsibility for academic successes and failures. The selected antecedent variables included such background and achievement characteristics as sex, achievement level, family socioeconomic status (SES), busing status, class proportion Anglo, class achievement level, present school proportion Anglo, past school proportion Anglo, and elementary school proportion Anglo. In addition, to focus on differences among the ethnicities (Anglo, Black, and Mexican-American), separate analyses were conducted for each ethnic group.

Methodology

Sample

Separate samples were constructed at the fourth-, fifth-, and eighth-grade levels. A total of 73 schools were involved in the survey, 20 of the schools were naturally integrated, the other 52 schools were impacted by a March, 1976 federal court order.

Fourth grade. The sample consisted of 2594 students, with 50.2% (1301)

males and 49.8% (1293) females. The ethnic composition was 48.8% (1267) Anglos, 36.5% (948) Blacks, and 14.6% (379) Mexican-Americans.

The fourth-grade population from which the sample was selected consisted of 49.5% males and 50.5% females. The population's ethnic breakdown was 46.3% Anglos, 38.5% Blacks, and 15.2% Mexican-Americans. Thus, the sample overrepresented the population in terms of males and Anglos, and underrepresented the population in terms of females, Blacks, and Mexican-Americans. The discrepancies, however, were not appreciable.

Fifth grade. The sample consisted of 2620 students, with 50.0% (1311) males and 50.0% (1309) females. The ethnic composition was 47.7% (1251) Anglos, 38.4% (1006) Blacks, and 13.9% (363) Mexican-Americans.

The fifth-grade population from which the sample was selected consisted of 50.6% males and 49.4% females. The population's ethnic breakdown was 48.0% Anglos, 37.9% Blacks, and 14.1% Mexican-Americans. Thus, although females and Blacks were slightly overrepresented, the sample closely reproduced the sex and ethnic breakdowns of the population.

Eighth grade. The sample consisted of 1623 students, with 48.6% (789) males and 51.4% (834) females. The ethnic composition was 48.7% (952) Anglos, 31.5% (512) Blacks, and 9.8% (159) Mexican-Americans.

The eighth-grade population from which the sample was selected consisted of 51.5% males and 48.5% females. The population's ethnic breakdown was 55.6% Anglos, 32.7% Blacks, and 11.7% Mexican-Americans. Thus, the sample overrepresented the population in terms of females and Anglos, and underrepresented the population in terms of males, Blacks, and Mexican-Americans. Once again, however, the discrepancies were not appreciable.

Instruments

Academic Self-Concept Scale. Vitale (1974) developed this scale to

measure a student's perception of his or her capabilities in an academic setting. Three of the 11 questions to which a student responds either "yes" or "no" are:

1. Can you give a good report in front of the class?
2. Are you proud of your schoolwork? and
3. Do you forget most of what you learn in school?

The alpha reliabilities for this scale were 0.68, 0.72, and 0.76 for the fourth-, fifth-, and eighth-grade samples, respectively.

Student Prejudice Scale. Designed by Meier (1975), and modified by Papay and Sides (1976), this 15-question scale assesses the feelings of a student towards Anglos, Blacks, and Mexican-Americans. The student responds either "yes" or "no" to questions such as:

1. Can whites be trusted?
2. Can blacks be trusted? and
3. Can Mexican-Americans be trusted?

The alpha reliabilities were 0.75, 0.77, and 0.75 for the fourth-, fifth-, and eighth-grade samples, respectively.

Intellectual Achievement Responsibility Scale. Crandall, Katkovsky, and Crandall (1964) developed this instrument to measure the extent to which a student feels that (s)he has control over the successes and failures (s)he receives in an academic setting. Specifically, the IAR scale is composed of 34 forced-choice items. Each item stem describes either a positive or a negative achievement experience which routinely occurs in a student's daily life. This stem is followed by two alternatives, one stating that the event occurred because of the behavior of someone else in the student's immediate environment, and the other stating that the event

occurred because of the behavior of someone else in the student's immediate environment, and the other stating that the event occurred because of the student. For example, "When you don't do well on a test at school, is it

1. because the test was hard, or
2. because you didn't study for it?"

A student's total score is the sum of all of the positive and negative events for which (s)he assumes credit.

It should be pointed out that this study utilized 20 items from the original IAR scale, including 12 of the 14 items comprising the new short version (Virginia Crandall, personal communication). The alpha reliabilities were 0.56 at the fourth-grade level, 0.59 at the fifth-grade level, and 0.57 at the eighth-grade level.

Student Aspirations Scale. The Student Aspirations Scale, also adapted from Rosenberg and Simmons (1971), was designed to measure aspirations in the areas of wealth, fame, occupational status, and educational goals. The scale consists of 11 questions with two or three alternatives per question. Two of the questions from the scale are:

1. When you grow up, how famous or well-known would you like to be? and
2. When you grow up, do you want to go to college?

Students respond to the first question by choosing either "not very famous," "famous," or "very famous," and, of course, they choose either "yes" or "no" in response to the second question. This scale's alpha reliabilities were 0.67, 0.67, and 0.62 for the fourth-, fifth-, and eighth-grade samples, respectively.

Anglo friendship measure. Three questions adapted from Coleman et al. (1966) measure the number of close Anglo friends a student has, along with the number of close Anglo friends and the number of Anglo classmates (s)he

desires. Each question has five choices ranging from "none" to "all of them." For example, "If you could have anyone you wanted for your close friends, how many would be white?" Students respond by selecting either "none," "a few," "about half," "most of them," or "all of them." This measure had alpha reliabilities of 0.79, 0.80, and 0.91 for the fourth-, fifth-, and eighth-grade samples, respectively.

Background and Achievement Characteristics

Sex. This was simply the sex designation of the student from the fall-1975 or fall-1976 ITBS data tapes.

Busing status. Students were classified as "bused" if, beginning in the fall of 1976, they were eligible to be transported by the school district to and from their school for the purposes of racial integration. In terms of the sample, "bused" students only attended the schools impacted by the Federal Court Order.

Students not eligible to be transported by the school district to and from their school for the purposes of racial integration were classified as "nonbused." "Nonbused" students attended all of the schools in the sample.

Achievement level. The Iowa Tests of Basic Skills (ITBS) composite grade-equivalent score is a general measure of intellectual performance in the five major areas of vocabulary, reading, language skills, work-study skills, and mathematics skills (Hieronymus and Lindquist, 1974). Because of its breadth as an indicator of academic performance, it was used as the measure of fourth-, fifth-, and eighth-grade student achievement. Specifically, the fall-1976 score was used at the fourth- and eighth-grade levels and the fall-1975 score was used at the fifth-grade level.

Family socioeconomic status (SES). An earlier study (Sheehan and Marcus,

1977) had produced scores on the following four social status dimensions for each student:

1. The extent of a family's social and cultural activities,
2. The extent of a family's material possessions,
3. A family's size, and
4. A family's use of a non-English language.

In addition, scores on a family "educational attainment - occupational status" dimension were available for the eighth-grade students.

Separate sets of SES indices were calculated at each grade level. In each case an SES index was formed by using the principal components method to analyze the matrix of Pearson product-moment correlations among the four (or five) social status dimensions and by calculating a score for each student on the single component which maximally discriminated among the students' families. These scores were standardized to a mean of zero and a standard deviation of one.

The indices maximally discriminated among the students' families in terms of the underlying social status dimensions. For example, fourth- and fifth-grade students with larger indices would come from smaller families who have more material possessions, who engage in more social and cultural activities, and who do not use a non-English language. Fourth- and fifth-grade students with smaller indices would come from larger families who have less material possessions, who engage in fewer social and cultural activities, and who may use a non-English language.

Class proportion Anglo. This was the proportion of Anglo students in each fourth- and fifth-grade classroom during the 1976-77 school year.

Class achievement level. For the fourth-grade classrooms the class achievement level was the class average of the fall-1976 ITBS composite

grade-equivalent scores. For the fifth-grade classrooms it was the class average of the fall-1975 ITBS composite grade-equivalent scores.

Present school proportion Anglo. This was the proportion of Anglo students in the district school attended by the student during the 1976-77 school year. The proportion was calculated from the Enrollment Report by Grade of November 2, 1976.

Past school proportion Anglo. This was the proportion of Anglo students in the district school attended by the student during the 1975-76 school year. The proportion was calculated from the Health, Education, and Welfare Fall Civil Rights Survey of October, 1975 (Meier and Smedley, 1976).

Elementary school proportion Anglo. This was the proportion of Anglo students in the district elementary school attended by the eighth-grade student during the 1974-75 school year. Again the proportion was calculated from the Health, Education, and Welfare Fall Civil Rights Survey of October, 1975 (Meier and Smedley, 1976).

Analyses

The first step in the analyses was the computation of average item scores for each student on each of the eight attitude measures. Students who responded to less than 80% of the items on any one measure were omitted from the analyses. Students with missing background and achievement characteristics [sex, busing status, achievement level, family SES, class proportion Anglo (fourth and fifth grades only), present school proportion Anglo, past school proportion Anglo, and elementary school proportion Anglo (eighth grade only)] were also omitted from the analyses. This resulted in decreases of 28.9%, 26.4%, and 47.8% in the fourth-, fifth-, and eighth-grade samples, respectively. However, in all three cases, the sex and ethnic breakdowns of the samples closely

approximated those of the populations.) For each ethnicity (Anglo, Black, and Mexican-American) within each grade level (fourth, fifth, and eighth), simple correlations were then computed between the attitude scores and the selected background and achievement characteristics. Multiple regression analyses were also performed for each ethnicity within each grade level. Because of the focus of the investigation, the attitude measures served as the dependent variables and the selected background and achievement characteristics were the independent variables.

Results and Discussion

Tables 4 to 6 present the simple correlations for each ethnic group within each of the three grade levels. An overview of these tables reveals that achievement level and the background variables of sex and family SES were most often significantly correlated with the attitude measures. In addition, sex and family SES were significantly correlated more frequently with Anglo attitudes than with Black or Mexican-American attitudes.

Tables 7 to 9 show the results of the regression analysis for each ethnic group within each grade level. To facilitate interpretation, mention should be made of the differences between the correlation and regression analyses. The correlation between an independent variable and an attitudinal variable does not take into account the interrelationships among the other independent variables. Regression analysis, however, measures the effect the independent variable has on the attitudinal variable exclusive of the effects of the other independent variables. In other words, regression analysis portrays the unique contribution each independent variable makes in predicting each attitudinal variable.

An overview of Tables 7 to 9 reveals that achievement level was the single

most important predictor of the attitude measures. Few other independent variables added significantly to the prediction of the student attitudes.

With this brief synopsis, we will present the results for each student attitude measure. The findings from both the correlation and regression analyses have been integrated, and whenever possible, they have been compared and contrasted with the findings of other studies.

Academic Self-Concept

Achievement level was the most important predictor of academic self-concept. Quite simply, high-achieving students had a higher academic self-concept than low-achieving students. In addition, intermediate school females had a higher academic self-concept than intermediate school males, and higher SES Blacks and Anglos. Finally, there was a significant relationship between busing status and academic self-concept for fifth- and eighth-grade Anglo students. The Anglos who were not bused had a more positive academic self-concept than the Anglos who were bused.

Racial Prejudice

For Blacks and Mexican-Americans there were inverse relationships between achievement level, family SES, present school proportion Anglo, class proportion Anglo and student prejudice level. High-achieving Blacks and Mexican-Americans from high SES families who were attending a school or class with a high proportion of Anglos were less prejudiced than low-achieving Blacks and Mexican-Americans from low SES families who were attending a school or class with a low proportion of Anglos. In addition, Mexican-Americans were much less prejudiced when there were more Anglos in their past school, and Mexican-American females were less prejudiced than Mexican-American males.

For Anglos there were also inverse relationships between achievement level,

present school proportion Anglo and student prejudice level. High-achieving Anglos who were attending a school with a high proportion of Anglos were less prejudiced than low-achieving Anglos who were attending a school with a low proportion of Anglos. In addition, female Anglo students were less prejudiced than male Anglo students, and at the fourth- and fifth-grade levels, Anglo students from high SES families were less prejudiced than Anglo students from low SES families.

However, eighth-grade Anglos were more prejudiced as family SES rose and past school proportion Anglo increased. Possibly older Anglo students, who have attended majority white or all-white schools, have had little opportunity to break down commonly held racial stereotypes. Middle school students are also noted for their close group membership ties, which could make acceptance of other racial groups a more difficult experience.

It is interesting to consider the relationships between present school proportion Anglo and racial prejudice in more detail. All three ethnicities were less prejudiced when they were attending schools with large Anglo populations. This suggests that, for Anglo students, the fewer minorities they have contact with, the lower their prejudice level. However, for minority students, the greater the number of Anglo students they have contact with, the lower their prejudice level. McWhirt (1967), studying North Carolina high school students in an integrated setting, also observed more prejudice in white students and less in Black students. Previous research, though, tends to support Allport's (1954) thesis that prolonged contact among equals, in a formally sanctioned environment, will reduce prejudice levels. More time is needed to affirm the applicability of this thesis to the school district's Anglo students.

Anglo Friendship Measure

At the fourth- and fifth-grade levels, students had higher scores on the Anglo friendship measure when the proportion of Anglo students in their present school increased. Fourth- and fifth-grade Anglo and Mexican-American students had higher scores when the proportion of Anglo students in their past school increased, and fourth- and fifth-grade Blacks and Mexican-Americans had higher scores when their class achievement level was higher. Quite clearly, at these grade levels the primary factor for students forming and wanting to form Anglo friendships, and wanting Anglo classmates, was contact with Anglos. This contact occurred in the students' past schools, in their present schools, and in their classrooms.

Eighth-grade Anglo and Mexican-American students had higher scores on the Anglo friendship measure when they were from higher SES families, when their past and present schools contained more Anglos, and when they were males. Eighth-grade Blacks had higher scores when they were males and when their elementary school contained more Anglos. Thus, at this grade level family SES and especially student sex played prominent roles along with Anglo contact in promoting Anglo friendships.

It is interesting to note that bused fourth- and fifth-grade Blacks had higher scores on the Anglo friendship measure, but bused fourth-grade Anglos and fifth- and eighth-grade Mexican Americans had lower scores.

Responsibility for Academic Successes and Failures

Achievement level was the most important predictor of IAR scores. High-achieving students assumed more responsibility for their academic successes and failures than did low-achieving students. Sex was also a predictor of IAR scores, with females assuming more responsibility for their academic

successes and failures than males. In addition, Mexican-American students assumed more responsibility for their academic successes and failures when their past school contained more Anglo students.

It is informative to compare these results to the findings of the Coleman (1966) report. Although Coleman used a very general, short, three-item measure of what he called "sense of environmental control," a comparison of findings with the IAR scale does not seem inappropriate. One of his most publicized findings was an increase in Black and Anglo sense of environmental control as the school proportion Anglo increased. While this study found no such relationships for Blacks and Anglos, it did, however, find the previously reported direct relationship between Mexican-American assumption of responsibility for academic successes and failures and past school proportion Anglo.

A second departure from the Coleman (1966) findings, also noted by St. John (1970), was the strong positive influence of achievement level for all three ethnicities. Achievement level influenced responsibility for academic success and failures much more dramatically than present or past school proportion Anglo.

Aspirations

Anglo and Mexican-American males had higher aspiration levels than Anglo and Mexican-American females, and there was a slight tendency for both groups to have higher aspiration levels as family SES increased.

The aspirations of fourth- and fifth-grade Anglo and Black students decreased as the present school proportion of Anglo students increased. This finding parallels that of other researchers (St. John, 1973; Armor, 1967), and may represent a realistic re-assessment in an integrated, and more competitive, environment. The higher Black (and Anglo) aspirations in settings with few

Anglo students may be unrealistic (Coleman, et al. 1966); they may camouflage insecurities (Gould, 1941); or they may be wishful thinking (Katz, 1967). In any case, a lowering of such aspiration levels would seem to be beneficial in preventing needless feelings of disappointment and failure.

Achievement level had a negligible, and perhaps even slightly negative, relationship with the aspirations of fourth- and fifth-grade students. However, at the eighth-grade level there was a complete reversal. The high-achieving eighth-graders were those with the higher aspiration levels. Thus, as Wilson (1967) found, age and achievement level combine to temper aspirations and make them more realistic.

CONCLUSIONS

The antecedent variables that were considered in this study fall into two groups. First, there are the less-manipulable variables like sex, achievement level, and family SES. As a group, these variables are less readily amenable to manipulations by desegregation plans or court orders. Second, there are the more-manipulable variables like busing status, class proportion Anglo, class achievement level, and present, past, and elementary school proportion Anglo. These variables are more readily amenable to manipulation by desegregation plans.

When the antecedent variables are classified in this way, it becomes apparent that the less-manipulable variables had the greatest impact on student attitudes. More specifically, achievement level was the single most important predictor of student attitudes; sex and family SES were moderately important predictors.

The more-manipulable variables had a lesser impact on student attitudes. Busing status, class proportion Anglo, class achievement level, and present,

past, and elementary school proportion Anglo were only slightly important predictors of student attitudes. However, when these variables indicated increased contact with Anglos, Black and Mexican-American attitudes were favorably affected. For example, Blacks and Mexican-Americans had lower prejudice levels and more Anglo friends when they had contact with more Anglo students; and Blacks had more realistic aspiration levels as the proportion of Anglo students in their present school increased.

The more-manipulable variables had a less favorable impact on Anglo attitudes. For example, Anglo students had higher prejudice levels when they had contact with more Black and Mexican-American students.

Thus, the variables that are more readily manipulated by desegregation plans (e.g., present school proportion Anglo) did not have the impact on student attitudes that less-manipulable variables like achievement level had. However, when the more-manipulable variables were altered to bring about racial mixing, the impact that they did have tended to be more favorable for minorities than for Anglos.

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